

IDAHO

DEPARTMENT OF FISH AND GAME

Jerry M. Conley. Director

NIAGARA SPRINGS HATCHERY

Annual Report



1 October 1982 - 30 September 1983

by
Charles R. Quidor
Fish Hatchery Superintendent III

November 1984

TABLE OF CONTENTS

	<u>PAGE</u>
ABSTRACT	1
OBJECTIVES	2
INTRODUCTION	2
FISH PRODUCTION	2
FISH HEALTH	3
MISCELLANEOUS	4
HATCHERY NEEDS	5
ACKNOWLEDGEMENTS	5

NIAGARA SPRINGS HATCHERY

ABSTRACT

This year Niagara Springs Hatchery fed 448,860 pounds of feed to produce 243,069 pounds of fish at a feed cost of \$95,234.54. The conversion rate for the year was 1.9:1 and the feed cost \$0.391 per pound of fish produced.

The Snake River, below Hells Canyon Dam, received 92,750 steelhead equaling approximately 32,050 pounds. The Pahsimeroi River received 486,140 steelhead weighing 136,400 pounds, the East Fork of Salmon River received 46,250 steelhead weighing 12,500 pounds and the Lemhi River received 500,000 steelhead fry weighing 200 pounds. The total number of steelhead released was 1,135,140 and the total pounds was 181,150.

The losses from IHN was down to approximately 2% by the end of October and continued to decline through the remainder of the growing season.

We received 2,749,292 eyed steelhead eggs from Pahsimeroi Hatchery in the spring of 1983 and 709,716 eyed steelhead eggs from Oxbow Hatchery for a total of 3,459,008 eyed eggs received.

We ended the 1982-83 year with 1,873,377 steelhead weighing 62,119 lbs.

Author:

Charles R. Quidor
Fish Hatchery Superintendent III

OBJECTIVES

The objectives of Niagara Springs Hatchery are to:

1. Raise 200,000 pounds of steelhead smolts to be released into the Pahsimeroi River.
2. Eventually raise 200,000 pounds of steelhead to be released into the Snake River below Hells Canyon Dam.

The purpose of this project is to continue the program of relocation of Snake River steelhead to the Pahsimeroi River and to maintain the steelhead run in the lower Snake River.

INTRODUCTION

Niagara Springs Hatchery is owned and financed 100% by Idaho Power Company. The hatchery is located 10 miles south of Wendell, Idaho, in the Snake River Canyon at Niagara Springs. The elevation is 3,000 feet.

The hatchery receives its water by gravity flow from Niagara Springs and receives 110 cfs to operate. The spring water is used for rearing steelhead, domestic use and to irrigate approximately 10 acres of lawn.

The hatchery includes one building 90' by 30' that houses an office, two incubator rooms, storage room, a small shop, a garage and three rest rooms. Another 12' by 36' building is used for storage. The chiller building, which is 20' square, houses a 20-ton freezing unit used to chill the water for hauling steelhead.

There are 14 raceways 10' wide by 3'10" deep by 300' long. Incorporated in the odd raceways are 14 fry raceways. These are 15' long, 56" wide and 3' deep. The incubator rooms house 20 circular vats 6' in diameter and 3' deep. There are 21 upwelling incubator boxes 12" square and 24" deep.

There are three three-bedroom homes with double garages for employees as well as an Idaho Power owned Kit Oakcrest mobile home 14' by 66'. This also has three bedrooms. There are also three trailer pads, one of which is occupied by the mobile home.

FISH PRODUCTION

On October 1, 1982, Niagara Springs Hatchery had 729,333 steelhead 3 to 6 inches in length on hand for 32,824 pounds.

On October 25, 1982, we received 46,612 steelhead at 21.1/lb for a total of 2,209 pounds. These were B-strain steelhead.

Beginning April 4, 1983, transporting of steelhead began to the Pahsimeroi River. A total of 496,140 steelhead weighing 136,400 pounds were transported to Pahsimeroi River. A total of 92,750 steelhead weighing 32,050 pounds were transported to Snake River below Hells Canyon Dam. A total of 46,250 B-strain steelhead weighing 12,500 pounds were transported to the East Fork of the Salmon River. A total of 500,000 steelhead fry weighing 20 pounds were transported to the head waters of Lemhi River on May 4, 1983. The grand total of all steelhead transported this fish year was 1,135,140 steelhead weighing 181,150 pounds.

We received 2,749,292 eyed steelhead eggs from Pahsimeroi Hatchery and 709,716 eyed steelhead eggs from Oxbow Hatchery during April and May, 1983. A total of 3,459,008 eyed steelhead were received from the two sources.

Hatching success on the Pahsimeroi eggs was 90.5% (2,580,186 fry) and was 98.0% (702,162 fry) on the Oxbow eggs.

We have 9 groups of steelhead this year as the following table signifies:

Exp. 1:	1-ocean males and 1-ocean females	112,630 fish,	4,560 lb
Exp. 2:	2-ocean males and 2-ocean females	166,937 fish,	6,445 lb
Exp. 3:	2-ocean males and 1-ocean females	128,109 fish,	5,959 lb
Exp. 4:	1-ocean males and 2-ocean females	121,283 fish,	5,296 lb
Pahsimeroi stock		777,158 fish,	19,565 lb
Raigen feed exp.		124,418 fish,	5,869 lb
Control (Clear Springs feed)		116,708 fish,	5,096 lb
Oxbow stock		325,914 fish,	9,322 lb
Chilled water hatch		220 fish,	7 lb

Grant Total	1,873,377 fish, 62,119 lbs
-------------	----------------------------

FISH HEALTH

The losses from IHN (Infectious Hematopoietic Necrosis) decreased through the remainder of the growing season. Total losses from IHN on the 1982 brood year was extremely high, approximately 85 to 90%.

All eggs received in 1983 were in excellent condition and hatched well with a 90 to 98% hatch.

The total mortality on the fish, from hatching through the end of the fish year, was about normal at approximately 30%.

We had three virology analyses run on the steelhead. The first two came back negative and the third came back positive for both IPN and IHN, but there is no sign of the virus and no increase in mortality to date.

This is the first year that we have not used the short fry raceways, and we have tried to keep the densities down, maybe this is part of the reason that we have not had a bad outbreak of virus this season.

MISCELLANEOUS

During this year we had our usual number of school tours. Several of these were organized by Roxie Simco, Consumer Representative for Idaho Power Company. Tours were also given to a Ladies Extension Group, some Cub Scouts and students from the Gooding Deaf and Blind School. Also, the Brother Speed motorcycle club returned on Memorial Day after a two-year absence.

David Parrish spent 34 days working at the Lower Granite Dam project, one day at a descaling school and gave a presentation on the Fish Transport Overview Project at the 1982 Northwest Fish Culture Workshop.

David Parrish and David May each spent 11 days working on the kokanee spawning operation at Granite Creek on Lake Pend Oreille.

David Billman spent two days helping with pheasant check stations and one day helping regional personnel build a deer depredation fence around an orchard directly across the Snake River.

Idaho Power Company's maintenance crew from Hagerman spent a lot of hours working on the hatchery again this year. Their accomplishments at the hatchery included: lubricating and repairing the bridge, feeder switches and solenoids; repairing the fish pump priming motor; feed bin electrical problems; chiller unit repairs; fixing the shop heater and the chlorinator. They also ran a 200-volt line down to the settling pond put in and removed our earthen dam at our intake.

At the residences Idaho Power replaced the attic fan in the #3 house and put new linoleum and carpet in #2 and #3 houses. This has made a vast improvement in the appearance and warmth of these houses.

One improvement was made in our irrigation system for the property east of Niagara Springs Creek. We tapped into the main line to Emerson-Pugmire Park. Thus eliminating the deteriorated main line we had on the hill. This has eliminated most of the clogging of sprinkler heads and given us increased pressure.

HATCHERY NEEDS

The needed improvements remain basically the same as the previous year.

The top priority for the hatchery is to increase our fry rearing space. Calculations of flow and density indexes have indicated that we should only expect to safely rear approximately 25,000 to 50,000 fry in each of our circular vats. We are presently rearing around 150,000 per tank. Linear vats would increase our ability to keep the fry's environment clean and healthy.

We still need a concrete dam at our intake pool. This would alleviate the need for Idaho Power to send in a backhoe and dump truck twice each year and would cut down on siltation of Niagara Springs Creek.

We have a need for an improved effluent cleaning system which could handle the flow of two or three ponds at one time. Flow meters are needed at various locations for legal water rights and EPA compliance reasons.

Additional storage area for lawn tractors and other equipment is still an important need.

ACKNOWLEDGEMENTS

Hatchery staffing during the year included Charles R. Quidor, Fish Hatchery Superintendent III; David Billman, Hatchery Superintendent I; David May, David Parrish and Paul Abbott, Fish Culturists. We also had two temporary employees during the summer months. They were Marsha Williams and Robin Dillon.